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EXAMINER	
HOLLIDAY, JAIME MICHELE	
ART UNIT	**PAPER NUMBER**
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/748,665	BEN-YEHUDA ET AL.	
	Examiner	Art Unit	
	Jaime M. Holliday	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Response to Arguments

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sorokine et al. (U.S. Patent # 6,430,414 B1)** in view of **Bourk et al. (U.S. Patent 6,259,916 B1)**, and in further view of **Sawyer et al. (U.S. Patent # 5,930,710)**.

Consider **claim 1**, Sorokine et al. clearly show and disclose a method for providing an improved soft handoff algorithm in a wireless communication system for third generation code division multiple access (CDMA). A call is established between the mobile station (MS) **10** and its serving base station (BS) **20** that has stored a neighbor cell list (NL). Each neighboring base station monitors the reverse channel signal strength received from the MS. The signal strength detected at each base station is transmitted to the Base Station Controller (BSC), which compiles a list of effective neighboring cells from at least one neighboring cell based on the monitored signal list, and transmits the list to the serving BS. The MS performs forward channel signal strength searching of the NL and monitors the effective neighboring cells to accomplish a handoff between the serving cell and a neighboring cell, reading on the claimed "method comprising: determining if a signal transmitted by at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device, and, if a signal of adequate quality of at least one other

base station is not received at said communications device, performing a base station identification procedure," (abstract, figure 3, column 6 lines 3-33, column 7 lines 57-65).

However, Sorokine et al. do not specifically disclose that monitoring the signal strength of the neighboring base station is done if it is determined that the signal transmitted by the serving base station is not of an adequate quality.

In the same field of endeavor, Bourk et al. clearly show and disclose a method for reducing the perceptible impact to user traffic during a hand-off process in a full duplex wireless system communications system having subscriber units and base stations. A subscriber unit determines signal quality indicators (SQI) from downlink signals received from a base station signal. The subscriber unit of the present invention employs a data/voice activity detector (VOX) **46**. The VOX detects data or voice activity on either a received signal or transmitted signal, for example, it detects when the user is not talking and/or the other user is talking. By monitoring the voice or data activity of received and transmitted signals, the subscriber unit can determine times when it may sample a downlink signal from a base station to determine SQI while not perceptibly impacting voice or data communications. The subscriber unit receives and processes the downlink signal from the base station for one or more cycles to determine SQI. The signal between the subscriber unit and its current base station may degrade, so the VOX only detects when the user is or is not talking, reading on the claimed "method comprising: determining, during a base station

monitoring procedure, if a signal transmitted by a base station currently transmitting data to a communications device is received at a communications device according to an adequate quality," (abstract, column 4 lines 47-62, column 4 line 66- column 3, column 5 lines 20-29).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the quality of the signal between the subscriber unit and the serving base station before determining the quality of signals between the subscriber unit and neighboring base stations as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

However, Sorokine et al., as modified by Bourk et al., do not specifically disclose that the determination of the signal quality is made while the mobile station or subscriber unit is in an idle state.

In the same field of endeavor, Sawyer et al. clearly show and disclose cell reselection performed by a mobile station when the control or pilot channel signal strength measured with respect to the second registration area cell exceeds the control or pilot channel signal strength measured with respect to a first registration area cell by the sum total of both a reselection hysteresis and a registration hysteresis. As a mobile station moves through the cellular service are in idle mode, it continuously monitors the control or pilot channel of the currently serving cell, and further makes signal strength measurements on the control or pilot channels of neighboring cells. From these signal strength

measurements, the mobile station selects a serving base station, reading on the claimed "determining, during a base station monitoring procedure in an idle state of a communications device, if a signal transmitted by a base station currently transmitting data to said communications device is received at a communications device according to an adequate quality, and, if the signal received is not of an adequate quality, determining if a signal transmitted by at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device," (abstract, col. 4 lines 18-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to measure signal strength while a mobile station is in idle mode as taught by Sawyer et al. in the method of Sorokine et al., as modified by Bourk et al. in order to improve the handoff process.

Consider **claim 2**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 1 above**, and in addition, Sorokine et al. further disclose the BSC **31** transmitting the effective neighbor list (ENL) data to the serving BS. Periodically, the BS sends a Neighbor List Update Message (NLUM) to the MS, which contains the ENL. The MS stores the pilot signals received from the ENL as the Neighbor Set and performs a forward pilot channel F-PICH search on the Neighbor Set, reading on the claimed "performing a base station identification procedure includes a base station search," (column 8 lines 12-17).

Consider **claim 3**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 1 above**, and in addition, Bourke et al. further disclose a longer interval, T1, may be used when the current has station is adequately carrying a call. Monitoring for a long time interval may increase the probability that the determination is applicable. A shorter time interval, T2, may be used when the current base station is not adequately carrying a call, reading on the claimed "performing said base station identification procedure comprises: if a first time interval has passed, performing a base station identification procedure for a first time period, and if a second time interval has passed, the second time interval being longer than the first time interval, performing a base station identification procedure for a second time period, the second time period being longer than the first time period," (column 5 lines 51-58).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different time intervals to determine the quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 4**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 3 above**, and in addition, Bourke et al. further disclose monitoring for a long time interval may increase the probability that the determination (transmission quality

is adequate) is applicable, reading on the claimed "base station identification procedure for a second time period comprises performing an extended base station identification procedure," (column 5 lines 52-56).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use long time intervals to determine the quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 5**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 3 above**, and in addition, Bourke et al. further disclose monitoring other base stations, because the signal from the present base station may degrade rapidly depending on the physical location of the base station and position of the subscriber unit. When the link has degraded and monitoring is more urgent, the criteria (time interval) should be relaxed (reduced). When the link performance becomes severely degraded, the subscriber unit may shorten the interval further to a time interval T3>T2, reading on the claimed "determining at an initial time interval, the initial time interval being shorter than said first time interval, if a signal received from at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device, and, if said at least one other signal of adequate quality is not received by

said communications device, performing a base station identification procedure," (column 5 line 61- column 6 line 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to shorten the time intervals used to determine the quality of the signal between the subscriber unit and the serving base station when communication is rapidly degrading as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 6**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 5 above**, and in addition, Bourke et al. further disclose monitoring other base stations (when time interval>T1), because the signal from the present base station may degrade rapidly, reading on the claimed "performing a base station identification procedure comprises performing a limited base station identification procedure," (column 5 lines 61-63).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to limit time intervals used to determine the quality of the signal between the subscriber unit and the serving base station when communication is rapidly degrading as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 7**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 1 above**, and in addition, Sorokine et al. further disclose the BSC processes the R-

PICH (reverse pilot channel) measurements from the NL members and compares each R-PICH data with a predetermined threshold, reading on the claimed "determining signal quality adequacy of a signal received from an identified base station by comparing the signal quality of a signal received from an identified base station to a predetermined threshold," (column 7 line 65-column 8 line 1).

Consider **claim 8**, Sorokine et al. clearly show and disclose an apparatus for providing an improved soft handoff algorithm in a wireless communication system for third generation code division multiple access (CDMA). A call is established between the mobile station (MS) and its serving base station (BS) that has stored a neighbor cell list (NL). Each neighboring base station monitors the reverse channel signal strength received from the MS. The signal strength detected at each base station is transmitted to the Base Station Controller (BSC), which compiles a list of effective neighboring cells (ENL) from at least one neighboring cell based on the monitored signal list, and transmits the list to the serving BS. The MS performs forward channel signal strength searching of the NL and monitors the effective neighboring cells to accomplish a handoff between the serving cell and a neighboring cell, reading on the claimed "apparatus, comprising: determining if at least one other base station in a list of identified base stations transmits a signal which is received according to an adequate quality, and, if said at least one other base station does not transmit a signal which is received according to an adequate quality, performing a base station

identification procedure," (abstract, figure 3, column 6 lines 3-33, column 7 lines 57-65).

However, Sorokine et al. do not specifically disclose that monitoring the signal strength of the neighboring base station is done if it is determined that the signal transmitted by the serving base station is not of an adequate quality.

In the same field of endeavor, Bourk et al. clearly show and disclose an apparatus for reducing the perceptible impact to user traffic during a hand-off process in a full duplex wireless system communications system having subscriber units and base stations. A subscriber unit determines signal quality indicators (SQI) from downlink signals received from a base station signal. The subscriber unit of the present invention employs a data/voice activity detector (VOX). The VOX detects data or voice activity on either a received signal or transmitted signal, for example, it detects when the user is not talking and/or the other user is talking. By monitoring the voice or data activity of received and transmitted signals, the subscriber unit can determine times when it may sample a downlink signal from a base station to determine SQI while not perceptibly impacting voice or data communications. The subscriber unit receives and processes the downlink signal from the base station for one or more cycles to determine SQI. The signal between the subscriber unit and its current base station may degrade, so the VOX only detects when the user is or is not talking, reading on the claimed "apparatus, comprising: a controller capable of determining, during a base station monitoring procedure, if a signal transmitted

by a base station currently transmitting data to a mobile device is received according to an adequate quality," (abstract, column 4 lines 47-62, column 4 line 66- column 3, column 5 lines 20-29).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the quality of the signal between the subscriber unit and the serving base station before determining the quality of signals between the subscriber unit and neighboring base stations as taught by Bourk et al. in the apparatus of Sorokine et al. in order to improve the handoff process.

However, Sorokine et al., as modified by Bourk et al., do not specifically disclose that the determination of the signal quality is made while the mobile station or subscriber unit is in an idle state.

In the same field of endeavor, Sawyer et al. clearly show and disclose cell reselection performed by a mobile station when the control or pilot channel signal strength measured with respect to the second registration area cell exceeds the control or pilot channel signal strength measured with respect to a first registration area cell by the sum total of both a reselection hysteresis and a registration hysteresis. As a mobile station moves through the cellular service are in idle mode, it continuously monitors the control or pilot channel of the currently serving cell, and further makes signal strength measurements on the control or pilot channels of neighboring cells. From these signal strength measurements, the mobile station selects a serving base station, reading on the

claimed "determining, during a base station monitoring procedure in an idle state of a communications device, if a signal transmitted by a base station currently transmitting data to said communications device is received at a communications device according to an adequate quality, and, if the signal received is not of an adequate quality, determining if a signal transmitted by at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device," (abstract, col. 4 lines 18-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to measure signal strength while a mobile station is in idle mode as taught by Sawyer et al. in the method of Sorokine et al., as modified by Bourk et al. in order to improve the handoff process.

Consider **claim 9**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 8 above**, and in addition, Sorokine et al. further disclose each MS sends reverse-link channel strength signal on the reverse pilot channel in the Traffic State to the BS which provides the BS with the opportunity to collect more information on the MS's RF environment, reading on the claimed "controller is capable of scanning a set of SYNC channels for further base stations," (column 7 lines 9-13).

Consider **claim 10**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 9 above**, and in addition, Bourke et al. further disclose a longer interval, T1, may be used when the current has station is adequately carrying a call. Monitoring for

a long time interval may increase the probability that the determination is applicable. A shorter time interval, T2, may be used when the current base station is not adequately carrying a call, reading on the claimed "controller is capable of, if a first interval has passed, scanning a set of SYNC channels for a first time period, and is capable of, if a second interval has passed, the second interval being longer than the first interval, scanning a set of SYNC channels for a second time period, the second time period being longer than the first time period," (column 5 lines 51-58).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different time intervals to determine the quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 11**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 9 above**, and in addition, Bourke et al. further disclose monitoring for a long time interval may increase the probability that the determination (transmission quality is adequate) is applicable, reading on the claimed "controller is capable of performing an extended base station identification procedure during said second time period," (column 5 lines 52-56).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use long time intervals to determine the

quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 12**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 8 above**, and in addition, Sorokine et al. further disclose the BSC processes the R-PICH (reverse pilot channel) measurements from the NL members and compares each R-PICH data with a predetermined threshold, reading on the claimed "controller is capable of determining signal quality adequacy according to a predetermined threshold," (column 7 line 65- column 8 line 1).

Consider **claim 13**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 8 above**, and in addition, Bourke et al. further disclose monitoring other base stations, because the signal from the present base station may degrade rapidly depending on the physical location of the base station and position of the subscriber unit. When the link has degraded and monitoring is more urgent, the criteria (time interval) should be relaxed (reduced). When the link performance becomes severely degraded, the subscriber unit may shorten the interval further to a time interval T3>T2, reading on the claimed "controller is capable of determining, at an initial interval, the initial interval being shorter than said first interval, if at least one other base station in a list of identified base stations transmits a signal which is received according to an adequate quality, and is

capable of, if said at least one other signal of adequate quality is not received, scanning a set of SYNC channels for further base stations," (column 5 line 61-column 6 line 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to shorten the time intervals used to determine the quality of the signal between the subscriber unit and the serving base station when communication is rapidly degrading as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process

Consider **claim 14**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 13 above**, and in addition, Bourke et al. further disclose monitoring other base stations (when time interval>T1), because the signal from the present base station may degrade rapidly, reading on the claimed "scanning a set of SYNC channels for further base stations comprises performing a limited base station identification procedure," (column 5 lines 61-63).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to limit time intervals used to determine the quality of the signal between the subscriber unit and the serving base station when communication is rapidly degrading as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 15**, Sorokine et al. clearly show and disclose a method and apparatus for providing an improved soft handoff algorithm in a wireless

communication system for third generation code division multiple access (CDMA). A call is established between the mobile station (MS) and its serving base station (BS) that has stored a neighbor cell list (NL). Each neighboring base station monitors the reverse channel signal strength received from the MS. The signal strength detected at each base station is transmitted to the Base Station Controller (BSC), which compiles a list of effective neighboring cells (ENL) from at least one neighboring cell based on the monitored signal list, and transmits the list to the serving BS. The MS performs forward channel signal strength searching of the NL and monitors the effective neighboring cells to accomplish a handoff between the serving cell and a neighboring cell, reading on the claimed "system, comprising: a controller capable of determining if at least one other base station in a list of identified base stations transmits a signal which is received according to an adequate quality, and, if said signal of adequate quality is not received, capable of performing a base station identification procedure," (abstract, figure 3, column 6 lines 3-33, column 7 lines 57-65).

However, Sorokine et al. do not specifically disclose that monitoring the signal strength of the neighboring base station is done if it is determined that the signal transmitted by the serving base station is not of an adequate quality.

In the same field of endeavor, Bourk et al. clearly show and disclose a method and apparatus for reducing the perceptible impact to user traffic during a hand-off process in a full duplex wireless system communications system having subscriber units and base stations. A subscriber unit determines signal quality

indicators (SQI) from downlink signals received from a base station signal. The subscriber unit of the present invention employs a data/voice activity detector (VOX). The VOX detects data or voice activity on either a received signal or transmitted signal, for example, it detects when the user is not talking and/or the other user is talking. By monitoring the voice or data activity of received and transmitted signals, the subscriber unit can determine times when it may sample a downlink signal from a base station to determine SQI while not perceptibly impacting voice or data communications. The subscriber unit receives and processes the downlink signal from the base station for one or more cycles to determine SQI. The antenna **52** receives signals from a base station. The examiner takes official notice that it is well known in the art that an antenna in a subscriber unit or mobile station may be a dipole antenna. The signal between the subscriber unit and its current base station may degrade, so the VOX only detects when the user is or is not talking, reading on the claimed "system, comprising: a dipole antenna; and a controller capable of determining, during a cell monitoring procedure, if a signal transmitted by a base station currently transmitting data to a mobile device is received according to an adequate quality," (abstract, column 3, lines 16-17, column 4 lines 47-62, column 4 line 66-column 3, column 5 lines 20-29).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the quality of the signal between the subscriber unit and the serving base station before determining the

quality of signals between the subscriber unit and neighboring base stations as taught by Bourk et al. in the apparatus and method of Sorokine et al. in order to improve the handoff process.

However, Sorokine et al., as modified by Bourk et al., do not specifically disclose that the determination of the signal quality is made while the mobile station or subscriber unit is in an idle state.

In the same field of endeavor, Sawyer et al. clearly show and disclose cell reselection performed by a mobile station when the control or pilot channel signal strength measured with respect to the second registration area cell exceeds the control or pilot channel signal strength measured with respect to a first registration area cell by the sum total of both a reselection hysteresis and a registration hysteresis. As a mobile station moves through the cellular service are in idle mode, it continuously monitors the control or pilot channel of the currently serving cell, and further makes signal strength measurements on the control or pilot channels of neighboring cells. From these signal strength measurements, the mobile station selects a serving base station, reading on the claimed "determining, during a base station monitoring procedure in an idle state of a communications device, if a signal transmitted by a base station currently transmitting data to said communications device is received at a communications device according to an adequate quality, and, if the signal received is not of an adequate quality, determining if a signal transmitted by at least one other base

station in a list of identified base stations is received according to an adequate quality at said communications device," (abstract, col. 4 lines 18-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to measure signal strength while a mobile station is in idle mode as taught by Sawyer et al. in the method of Sorokine et al., as modified by Bourk et al. in order to improve the handoff process.

Consider **claim 16**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 15 above**, and in addition, Bourke et al. further disclose a longer interval, T1, may be used when the current has station is adequately carrying a call. Monitoring for a long time interval may increase the probability that the determination is applicable. A shorter time interval, T2, may be used when the current base station is not adequately carrying a call, reading on the claimed "the controller, if a first interval has passed, is capable of scanning a set of SYNC channels for a first time period, and if a second interval has passed, the second interval being longer than the first interval, is capable of scanning a set of SYNC channels for a second time period, the second time period being longer than the first time period," (column 5 lines 51-58).

Consider **claim 17**, Sorokine et al. clearly show and disclose that signal strength detected at each base station is transmitted to the Base Station Controller (BSC), which compiles a list of effective neighboring cells (ENL) from at least one neighboring cell based on the monitored signal list, and transmits the

list to the serving BS. The MS performs forward channel signal strength searching of the NL and monitors the effective neighboring cells to accomplish a handoff between the serving cell and a neighboring cell, reading on the claimed "instructions that, when executed by a processing platform, result in determining if at least one other base station in a list of identified base stations transmits a signal which is received by said communication device according to an adequate quality," (abstract, figure 3, column 6 lines 3-33, column 7 line 57- column 8 line 1).

However, Sorokine et al. do not specifically disclose that monitoring the signal strength of the neighboring base station is done if it is determined that the signal transmitted by the serving base station is not of an adequate quality.

In the same field of endeavor, Bourk et al. clearly show and disclose that the signal between the subscriber unit and its current base station may degrade, so the VOX only detects when the user is or is not talking, reading on the claimed "instructions that, when executed by a processing platform, result in: determining during a base station monitoring procedure if a signal from a base station currently transmitting data to a communications device is received by said communication device according to an adequate quality." Each MS sends reverse-link channel strength signal on the reverse pilot channel in the Traffic State to the BS which provides the BS with the opportunity to collect more information on the MS's RF environment, reading on the claimed "controller is capable of scanning a set of SYNC channels for further base stations," (abstract,

column 4 lines 47-62, column 4 line 66- column 3, column 5 lines 20-29, column 7 lines 9-13).

However, Sorokine et al., as modified by Bourk et al., do not specifically disclose that the determination of the signal quality is made while the mobile station or subscriber unit is in an idle state.

In the same field of endeavor, Sawyer et al. clearly show and disclose cell reselection performed by a mobile station when the control or pilot channel signal strength measured with respect to the second registration area cell exceeds the control or pilot channel signal strength measured with respect to a first registration area cell by the sum total of both a reselection hysteresis and a registration hysteresis. As a mobile station moves through the cellular service are in idle mode, it continuously monitors the control or pilot channel of the currently serving cell, and further makes signal strength measurements on the control or pilot channels of neighboring cells. From these signal strength measurements, the mobile station selects a serving base station, reading on the claimed "determining, during a base station monitoring procedure in an idle state of a communications device, if a signal transmitted by a base station currently transmitting data to said communications device is received at a communications device according to an adequate quality, and, if the signal received is not of an adequate quality, determining if a signal transmitted by at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device," (abstract, col. 4 lines 18-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to measure signal strength while a mobile station is in idle mode as taught by Sawyer et al. in the method of Sorokine et al., as modified by Bourk et al. in order to improve the handoff process.

Consider **claim 18**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 17 above**, and in addition, Bourke et al. further disclose a longer interval, T1, may be used when the current has station is adequately carrying a call. Monitoring for a long time interval may increase the probability that the determination is applicable. A shorter time interval, T2, may be used when the current base station is not adequately carrying a call, reading on the claimed "instructions, when executed by the processing platform, result in, if a first interval has passed, scanning a set of SYNC channels for a first time period, and if a second interval has passed, the second interval being longer than the first interval, scanning a set of SYNC channels for a second time period, the second time period being longer than the first time period," (column 5 lines 51-58).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different time intervals to determine the quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 19**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 17 above**, and in addition, Sorokine et al. further disclose the BSC processes the R-PICH (reverse pilot channel) measurements from the NL members and compares each R-PICH data with a predetermined threshold, reading on the claimed "instructions, when executed by the processing platform, result in determining signal adequacy according to a predetermined threshold," (column 7 line 65- column 8 line 1).

Consider **claim 20**, Sorokine et al. clearly show and disclose a method for providing an improved soft handoff algorithm in a wireless communication system for third generation code division multiple access (CDMA). A call is established between the mobile station (MS) and its serving base station (BS) that has stored a neighbor cell list (NL). Each neighboring base station monitors the reverse channel signal strength received from the MS. The signal strength detected at each base station is transmitted to the Base Station Controller (BSC), which compiles a list of effective neighboring cells from at least one neighboring cell based on the monitored signal list, and transmits the list to the serving BS, reading on the claimed "method comprising: during a base station monitoring procedure, performing a multi-path search to determine whether at least one identified neighboring base station transmits a signal which is received by a communication device according to an adequate quality," (abstract, figure 3, column 6 lines 3-33, column 7 lines 57-65).

However, Sorokine et al. do not specifically disclose that monitoring is done during at a base station evaluation interval.

In the same field of endeavor, Bourk et al. clearly show and disclose a method for reducing the perceptible impact to user traffic during a hand-off process in a full duplex wireless system communications system having subscriber units and base stations. A subscriber unit determines signal quality indicators (SQI) from downlink signals received from a base station signal. Monitoring (the transmission quality) for a long time interval may increase the probability that the determination is applicable. A shorter time interval, T2, may be used when the current base station is not adequately carrying a call, reading on the claimed "performing said base station identification procedure comprises: if a first time interval has passed, performing a base station identification procedure for a first time period, and if a second time interval has passed, the second time interval being longer than the first time interval, performing a base station identification procedure for a second time period, the second time period being longer than the first time period," (column 5 lines 51-58).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the quality of the signal between the subscriber unit and neighboring base stations during evaluation intervals as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

However, Sorokine et al., as modified by Bourk et al., do not specifically disclose that the determination of the signal quality is made while the mobile station or subscriber unit is in an idle state.

In the same field of endeavor, Sawyer et al. clearly show and disclose cell reselection performed by a mobile station when the control or pilot channel signal strength measured with respect to the second registration area cell exceeds the control or pilot channel signal strength measured with respect to a first registration area cell by the sum total of both a reselection hysteresis and a registration hysteresis. As a mobile station moves through the cellular service are in idle mode, it continuously monitors the control or pilot channel of the currently serving cell, and further makes signal strength measurements on the control or pilot channels of neighboring cells. From these signal strength measurements, the mobile station selects a serving base station, reading on the claimed "determining, during a base station monitoring procedure in an idle state of a communications device, if a signal transmitted by a base station currently transmitting data to said communications device is received at a communications device according to an adequate quality, and, if the signal received is not of an adequate quality, determining if a signal transmitted by at least one other base station in a list of identified base stations is received according to an adequate quality at said communications device," (abstract, col. 4 lines 18-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to measure signal strength while a mobile

station is in idle mode as taught by Sawyer et al. in the method of Sorokine et al., as modified by Bourk et al. in order to improve the handoff process.

Consider **claim 21**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 20 above**, and in addition, Sorokine et al. further disclose the BSC processes the R-PICH (reverse pilot channel) measurements from the NL members and compares each R-PICH data with a predetermined threshold. The BSC transmits an effective neighbor list (ENL) to the serving BS. The MS performs the forward pilot channel F-PICH search on the Neighbor Set, reading on the claimed "in the case where the received signal from said multi-path search does not meet a selected criterion, performing a base station identification procedure," (column 7 line 65- column 8 line 1, column 8 lines 13-19).

Consider **claim 22**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 20 above**, and in addition, Sorokine et al. further disclose the MS stores the pilots received from the ENL as the Neighbor Set and afterwards performs F-PICH search on the Neighbor Set, reading on the claimed "executing said multi-path search over a buffer of recorded samples," (column 8 lines 16-19).

Consider **claim 23**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 20 above**, and in addition, Bourke et al. further disclose monitoring for a long time interval may increase the probability that the determination (transmission quality

is adequate) is applicable, reading on the claimed "at a second interval being greater than said base station evaluation interval, performing an extended base station identification procedure," (column 5 lines 52-56).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use long time intervals to determine the quality of the signal between the subscriber unit and the serving base station as taught by Bourk et al. in the method of Sorokine et al. in order to improve the handoff process.

Consider **claim 24**, the combination of Sorokine et al. and Bourk et al., as modified by Sawyer et al., disclose the claimed invention **as applied to claim 20 above**, and in addition, Sorokine et al. further disclose the BSC informing all the cells in the NL to monitor R-PICH signal strength of the MS and report it to the BSC, which then processes the R-PICH signals and compares each R-PICH data with a pre-determined threshold. The BSC compiles and ENL and sends the ENL data to the serving BS, which sends the data to the MS. The MS stores the ENL and performs a F-PICH search on the ENL, reading on the claimed "at a base station measurement interval: performing a multi-path search; evaluating the results of said search; and if signals being received to said communication device do not meet pre-selected criteria, performing a base station identification procedure," (column 7 line 59- column 8 line 19).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaime M. Holliday whose telephone number is (571) 272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner